

**IN THE CLAIMS:**

This listing of claims will replace all prior versions, and listings of claims in the application.

1    17. (Currently amended) A silica-based organic film obtained by a method comprising[[ the  
2    steps of]]:

3       applying a coating solution on a target material to form a coating film, the coating  
4    solution containing a reaction product obtained by hydrolyzing, in an organic solvent in the  
5    presence of an acid catalyst, at least one first alkoxysilane compound selected from the group  
6    consisting of compounds represented by general formula (I):

7        $R^1_2Si(OR^2)_2 \dots (I)$

8       wherein  $R^1$  represents an alkyl group having 1 to 4 carbon atoms or a phenyl group, and  
9     $R^2$  represents an alkyl group having 1 to 4 carbon atoms,  
10   and compounds represented by general formula (II):

11       $R^3Si(OR^4)_3 \dots (II)$

12      wherein  $R^3$  represents an alkyl group having 1 to 4 carbon atoms or a phenyl group, and  
13    $R^4$  represents an alkyl group having 1 to 4 carbon atoms,  
14   and

15       baking the coating film in an atmosphere having an oxygen concentration of 1000 ppm  
16   or less, and at a temperature from 680°C to 750°C to form a film,

17       wherein an etching rate of the silica-based organic film in wet etching using  
18   hydrofluoric acid having a concentration of 0.5% by weight at 25°C is 60 angstroms/min or  
19   less, and

20       wherein an organic group content, which is represented as a ratio of the total of a peak  
21   area of SiR<sup>1</sup> and a peak area of SiR<sup>3</sup> to a peak area of Si-O-Si in a spectrum obtained by  
22   measuring an infrared absorption spectrum of the film, is 0.01 or more.

1    18. (Cancelled)

1    19. (Cancelled)

1 20. (Currently amended) The silica-based organic film according to claim [[18]] 17, wherein a  
2 carbon content is from 6 to 18 atm%.

1 30. (Currently amended) A silica-based organic film obtained by a method[[,]] comprising[[ the  
2 steps of]]:

3 applying a coating solution on a target material to form a coating film, the coating  
4 solution containing a reaction product obtained by hydrolyzing, in an organic solvent in the  
5 presence of an acid catalyst, at least one first alkoxy silane compound selected from the group  
6 consisting of compounds represented by general formula (I):

7  $R^1_2Si(OR^2)_2 \dots (I)$

8 wherein  $R^1$  represents an alkyl group having 1 to 4 carbon atoms or a phenyl group, and  $R^2$   
9 represents an alkyl group having 1 to 4 carbon atoms,  
10 and compounds represented by general formula (II):

11  $R^3Si(OR^4)_3 \dots (II)$

12 wherein  $R^3$  represents an alkyl group having 1 to 4 carbon atoms or a phenyl group, and  $R^4$   
13 represents an alkyl group having 1 to 4 carbon atoms,

14 and at least one second alkoxy silane compound selected from the group consisting of  
15 compounds represented by general formula (III):

16  $Si(OR^5)_4 \dots (III)$

17 wherein  $R^5$  represents an alkyl group having 1 to 4 carbon atoms,  
18 and

19 baking the coating film in an atmosphere having an oxygen concentration of 1000 ppm  
20 or less, and at a temperature from 680°C to 750°C to form a film,

21 wherein an etching rate of the silica-based organic film in wet etching using  
22 hydrofluoric acid having a concentration of 0.5% by weight at 25°C is 60 angstroms/min or  
23 less, and

24 wherein an organic group content, which is represented as a ratio of the total of a peak  
25 area of SiR<sup>1</sup> and a peak area of SiR<sup>3</sup> to a peak area of Si-O-Si in a spectrum obtained by  
26 measuring an infrared absorption spectrum of the film, is 0.01 or more.

1 31. (Cancelled)

1 32. (Cancelled)

1 33. (Previously added) The silica-based organic film according to claim [[31]] 30, wherein a  
2 carbon content is from 6 to 18 atm%.